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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,459	10/02/2003	Dennis Joseph Boylan	60088.0002US01	8501

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EXAMINER

TRAN, PHILIP B

ART UNIT	PAPER NUMBER
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2155

MAIL DATE	DELIVERY MODE
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05/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/677,459	Applicant(s) BOYLAN ET AL.	
	Examiner Philip B. Tran	Art Unit 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 18 April 2007.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-43 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-13 and 16-43 is/are rejected.
- 7) Claim(s) 14-15 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 1/23/2006.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-11, 16-28 and 30-43 are rejected under 35 U.S.C. § 102(e) as being anticipated by Bainbridge et al (Hereafter, Bainbridge), U.S. Pat. No. 7,185,079.

Regarding claim 1, Bainbridge teaches a computer-implemented method of changing a status of a portion of network address space from free to another status, comprising: receiving a request of a block size to allocate for a current network with a new status; detecting within a definitional listing for the network address space, a block with free status of sufficient size to cover the block size to allocate; and assigning, for the current network, the new status to the detected block within the definitional listing see Abstract and Figs. 1-4 and Col. 9, Line 35 to Col. 10, Line 51].

Regarding claim 2, Bainbridge further teaches the computer-implemented method of claim 1, wherein determining a block size to allocate comprises receiving user input specifying a mask size and comprises receiving user input specifying a netmask [see Col. 7, Lines 1-17].

Regarding claim 4, Bainbridge further teaches the computer-implemented method of claim 1, wherein determining a block size to allocate comprises receiving a beginning value and an ending value [see Col. 6, Lines 25-53 and Col. 9, Lines 35-52].

Regarding claim 5, Bainbridge further teaches the computer-implemented method of claim 1, wherein receiving the request further comprises receiving a fit selection from the group comprising: next block fit; utilization fit; and rated fit [see Figs. 1-4 and Col. 9, Line 35 to Col. 10, Line 51].

Regarding claims 6-7, Bainbridge further teaches the computer-implemented method of claim 5, wherein when receiving the request includes receiving a next block fit, then selecting the next block of network address space with respect to address order to assign and wherein selecting the next block comprises selecting the next block according to a pre-defined network allocation order [see Figs. 1-4 and Col. 9, Line 35 to Col. 10, Line 51].

Regarding claims 8-9, Bainbridge further teaches the computer-implemented method of claim 5, wherein when receiving the request includes receiving a utilization fit, then selecting a block of the smallest defined block size from an address range including blocks of the requested size or larger and further comprising breaking ties

between blocks of a same size according to a pre-defined network allocation order [see Figs. 1-4 and Col. 8, Lines 1-21 and Col. 9, Line 35 to Col. 10, Line 51].

Regarding claims 10-11, Bainbridge further teaches the computer-implemented method of claim 5, wherein when receiving the request includes receiving a rated fit, then rating each block of the current network of at least the requested size according to a block size and whether there is aggregation with child descendant aggregate blocks and selecting a block with the best rating and wherein rating each block comprises utilizing rated fit parameters previously tuned by a user [see Figs. 1-4 and Col. 9, Line 35 to Col. 10, Line 51].

Regarding claim 16, Bainbridge further teaches the computer-implemented method of claim 1, further comprising: detecting whether a block of the definitional listing is larger than the requested size; when the block is larger than the requested size, then splitting the block and selecting a portion resulting from the split according to a predefined network allocation order and repeating until the remaining block is not larger than the requested size [see Col. 9, Line 35 to Col. 10, Line 51].

Regarding claim 17, Bainbridge teaches a computer-implemented method of changing a status of a portion of network address space from a first status to a free status, comprising: receiving a request of a block to deallocate for a current network to the free status; and assigning, for the current network, the free status to the requested

block within a definitional listing for the network address space [see Figs. 1-4 and Col. 10, Line 31 to Col. 11, Line 32].

Regarding claims 18-19, Bainbridge further teaches the computer-implemented method of claim 17, wherein assigning the free status to the requested block comprises coalescing the requested block together with an adjacent block having free status to create a resulting combined block with free status and repeating the coalescing of the resulting combined block with an adjacent block with free status until the adjacent block is not free or not available within the network [see Col. 9, Line 53 to Col. 10, Line 7 and Col. 11, Lines 16-32].

Regarding claims 20-21, Bainbridge further teaches the computer-implemented method of claim 17, further comprising: detecting whether the current network has a re-use interval; and when the current network has a re-use interval, delaying until the expiration of the re-use interval before assigning the free status to the requested block and setting the status of the requested block to re-use delay while delaying until the expiration of the re-use interval [see Figs. 1-4 and Col. 11, Lines 16-32].

Regarding claim 22, Bainbridge further teaches the computer-implemented method of claim 17, further comprising: detecting whether a reclaim of the requested block is pending; and when a reclaim of the requested block is pending, then

proceeding with a reclaim of the requested block rather than assigning the free status to the requested block [see Col. 11, Lines 16-32].

Regarding claim 23, Bainbridge teaches a computer-implemented method of changing a status of a portion of network address space from a first status to a status of a reclaim, comprising: receiving a reclaim action request for a block of a current network; detecting whether the entire block to reclaim is in a reclaim pending status; and when the entire block to reclaim is in the reclaim pending status, performing the reclaim action upon the entire block within a definitional listing for the network address space [see Figs. 1-4 and Col. 9, Line 53 to Col. 10, Line 7 and Col. 11, Lines 16-32].

Regarding claims 24-26, Bainbridge further teaches the computer-implemented method of claim 23, further comprising prior to detecting whether the entire block to reclaim is in a reclaim pending status, marking all blocks having a free status that are within the block to reclaim with the reclaim pending status and upon detecting that the entire block to reclaim is not in a reclaim pending status, monitoring the definitional listing to detect a change to the free status for one or more blocks within the block to reclaim that are not in the reclaim pending status; and upon detecting the change to the free status for one or more of the blocks within the block to reclaim that are not in a reclaim pending status, assigning the reclaim pending status to the one or more blocks that have changed to the free status and wherein prior to assigning the reclaim pending status to the one or more blocks that have changed to the free status, the method

further comprising splitting at least one block containing one or more of the blocks within the block to reclaim and one or more blocks that are not within the block to reclaim [see Col. 9, Line 53 to Col. 10, Line 7 and Col. 11, Lines 16-32].

Claim 27 is rejected under the same rationale set forth above to claim 1.

Regarding claim 28, Bainbridge further teaches the computer system of claim 27, wherein the processor is further configured to receive a fit selection, and according to the fit selection, detect the block with the free status that is of sufficient size and assign the new status to the detected block [see Figs. 1-4 and Col. 9, Line 35 to Col. 10, Line 51].

Claim 30 is rejected under the same rationale set forth above to claim 17.

Claim 31 is rejected under the same rationale set forth above to combination of claims 18 and 19.

Claim 32 is rejected under the same rationale set forth above to combination of claims 20 and 21.

Claim 33 is rejected under the same rationale set forth above to claim 23.

Claim 34 is rejected under the same rationale set forth above to claim 24.

Claim 35 is rejected under the same rationale set forth above to claim 25.

Claim 36 is rejected under the same rationale set forth above to claim 1.

Claim 37 is rejected under the same rationale set forth above to combination of claims 2-4.

Claim 38 is rejected under the same rationale set forth above to claim 5.

Claim 39 is rejected under the same rationale set forth above to claim 16.

Claim 40 is rejected under the same rationale set forth above to claim 17.

Claim 41 is rejected under the same rationale set forth above to claim 22.

Claim 42 is rejected under the same rationale set forth above to claim 23.

Claim 43 is rejected under the same rationale set forth above to combination of claims 24-26.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-13 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bainbridge et al (Hereafter, Bainbridge), U.S. Pat. No. 7,185,079.

Regarding claims 12-13, Bainbridge does not explicitly teach the computer-implemented method of claim 1, comprising: detecting whether a block of the requested size exists within the network address space assigned to the current network; when a block of the requested size does not exist within the network address space assigned to

the current network, lending a block from a second network that aggregates with the current network and comprises receiving a specified range to allocate from, the method further comprising when a block of the requested size does not exist within the specified range but does exist within the current network, returning a fail indication and not lending a block from another network that aggregates with the current network. However, it would have been obvious to one of skilled in the art to lend a block of available address from other associated network if a block of the requested size does not exist within the network address space in order to efficiently and dynamically allocate blocks of network address in the network.

Regarding claim 29, Bainbridge does not explicitly teach the computer system of claim 27, wherein the processor is further configured to receive a specified range to allocate from, detect whether a block of the requested size exists within the specified range of the network address space assigned to the current network, and when a block of the requested size does not exist within the specified range, lending a block from a second network that aggregates with the current network. However, it would have been obvious to one of skilled in the art to lend a block of available address from other associated network if a block of the requested size does not exist within the network address space in order to efficiently and dynamically allocate blocks of network address in the network.

Allowable Subject Matter

5. Claims 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other References Cited

6. The following references cited by the examiner but not relied upon are considered pertinent to applicant's disclosure.

- A) Wilkes, U.S. Pat. No. 7,146,569.
- B) Johnston et al, U.S. Pat. No. 6,404,444.
- C) Rodriguez-Rivera et al, U.S. Pat. No. 7,051,056.
- D) Lehman, U.S. Pat. No. 6,658,437.
- E) Mathiews et al, U.S. Pat. No. 6,754,788.
- F) Munroe et al, U.S. Pat. No. 6,681,239.
- G) Brigde, U.S. Pat. No. 6,880,102.
- H) Bertagna et al, U.S. Pat. No. 6,088,745.

7. A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS ACTION IS SET TO EXPIRE THREE MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION. FAILURE TO RESPOND WITHIN THE PERIOD FOR RESPONSE WILL CAUSE THE APPLICATION TO BECOME ABANDONED (35 U.S.C. § 133). EXTENSIONS OF TIME MAY BE OBTAINED UNDER THE PROVISIONS OF 37 CAR 1.136(A).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Tran whose telephone number is (571) 272-3991. The Group fax phone number is (571) 273-8300. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar, can be reached on (571) 272-4006.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


PHILIP TRAN
PRIMARY EXAMINER

Art Unit 2155
May 24, 2007